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The National Convention.

Prof. Cook, President of the North American Bee-Keepers' Society, writes under date of June 19: "As I know the readers of the AMERICAN BEE JOURNAL will be glad to learn, I hasten to announce that the North American Bee-Keepers' Society will, without doubt, meet in Washington Park Hall, just across Washington Park from the Exposition Building, Cincinnati, O., during the last week of the Exposition, Oct. 3d to 5th. Let all bee-keepers see that excursions are arranged for that week. We have already one promised from Detroit. Round trip only \$15.00. The announcement will be made officially by the Secretary in a few days.

Prospects More than Bright.—As we advised our readers weeks ago, the "silver lining of the clouds" is now almost an assured fact. From every quarter come the most encouraging hopes, and every southern breeze is burdened with the sweet perfume from white clover, which was never more plentiful than now. Linden, heartsease, horsemint, and other flowers give promise of great abundance, and with ordinary favorable weather for the remainder of the season, in most locations where were heard the frequent groans of despair will be sung the glad pæans of joys realized. The prospects for an abundant honey harvest were never better than now.

Articles for publication must be written on a separate piece of paper from items of business.

New Book for Farmers.—We have on our desk a new work that will be of untold value to the farmers. It is called "The Farmers' Practical Encyclopedia," and contains "a systematic and practical treatise on every subject pertaining to farm and home life in America." It contains over 1,200 quarto pages, is elegantly bound in 2 volumes, and is published by Chapman Brothers, Chicago. The article on bee-keeping is very thorough, and embraces every part of progressive bee-culture. It extends over 14 pages, and is beautifully illustrated. In recommending the encyclopedia to the farmers of America, we feel that we are doing them a kindness, for it gives to the farmer, in his own sphere, in behalf of his own interests and profession, a literary work of extraordinary high character, exhaustive, complete and practical. It embraces the entire scope of rural life in every department. It contains the gist of many thousands of volumes, prepared by the most scientific, experienced and practical men on this and the European continents, and therefore contains a larger amount of well-timed and valuable information than can be found in any work of its scope yet published.

Fairs.—Any of our friends who may intend to visit fairs, will be furnished with copies of the BEE JOURNAL for distribution to bee men they may meet there, by sending us a request stating how many they can take care of. We will also send two large, colored Posters to enable them to get up a club, if they wish to do so.

We have received the Premium List of the "Northwestern Industrial Association" to be held at Minneapolis, Minn., on Sept. 4th to 9th, 1882. It contains no premiums for exhibits of honey, bees, or beeswax.

Drones—Are they Auxiliaries?

Mr. Wm. Maxwell, Edgerton, Kans., furnishes the following information regarding his experience with the barberry bush, which will be read with interest by all horticulturists:

In the AMERICAN BEE JOURNAL of June 7, page 361, I see an inquiry by P. J. Swain, concerning the barberry plant, and Prof. Burrill's remarks thereon. Now, I want to relate a bit of experience that I have had with this shrub. I have had it a great many years on my grounds, and much admire its beauty, and find it to be considerable help to the bees during the short time it remains in bloom; it also makes a good inside hedge, but is not strong enough to be depended upon for an outside inclosure. Some 6 years ago I planted one side of my peach orchard with it, intending to hedge it all around; three years since it began to bloom finely (it seldom bears any fruit in this locality), and was truly "a thing of beauty." About the 15th of May I discovered that my peach trees were peculiarly affected, the leaves were covered with a sort of mildew, turned white, and crimped and twisted; the fruit turned white and dropped badly, and the whole tree had a leprosy appearance; the fruit was not all destroyed, but was badly damaged; the next year the same thing occurred. Well, in conversation with an eastern man he remarked that the barberry caused wheat to rust, and the farmers did not tolerate it; I at once concluded I had the key to my peach disaster, and accordingly ordered every barberry on my premises cut down, and now my peach trees and fruit look as fine as I could wish, and are perfectly free from leprosy. I am satisfied that the profuse light pollen caused the trouble. I have not discovered that my wheat was affected by it, but I have never had any wheat within less than 80 rods of the barberry. Let me hear from others. Now, as I am a novice in the bee business, I want to make an inquiry or two. I have a few colonies of bees—some Italians and some hybrids—all the queens pure, but some impurely fertilized. The drones of the impurely fertilized are darker than the pure ones, with shining black heads, while the pure ones are lighter colored, with claret-colored heads. This peculiarity of the color of the head I never discovered in any other instance, and would like to know whether it is a characteristic of pure drones? My observations with my drones seem to disprove the commonly received theory of pure queens producing pure drones, although impurely fertilized.

Scientists and theory hold that the drones of pure queens will be themselves pure, regardless of how the queens were mated; but many beekeepers of long and close observation have of late years cited many exceptions to the rule. We have often thought there is much yet to learn re-

garding drone production and their functions in the hive. It sometimes seems almost improbable that nature would be so lavish with drone progeny, if one only was conducive to the prosperity or perpetuation of the colony, while the queen progeny, upon which existence itself depends, should be so exceedingly limited, and the instinct of the first emerging should impel her to immediately destroy all possibility of succession.

Who that is familiar with the inner economy of the bee hive, has not observed the hundreds of drones in a strong colony, during a rapid honey flow, apparently as busy on the combs in which honey is being stored as are the worker bees, and it is quite a common occurrence to observe them thickly congregated on the cells in which are freshly deposited eggs and newly hatched larvæ, as though by their presence they assisted in incubating the eggs, or furnished the natural heat necessary for the larvæ. More particularly have we observed this when, after a season of rapid breeding, a cold windy spell of several days' duration visits us, and our bees, as if with one general impulse, flock to the grocery stores in hordes, often in two or three days depleting a ten-frame colony to one or two spaces. We have within the past month had colonies containing seven frames of eggs and brood in all stages, depleted to two frames of workers, and "powerful weak" at that. If drones do no "family duty" in the hive, how is it possible to rear a hive full of drones, when the queen is but a drone-layer?

It is a curious fact, when honey is coming in most rapidly, when the glad, joyous midnight roar can be heard rods distant from the hive, when the bees during daylight with frenzy rush over each other pell-mell in their eagerness to go for fresh loads of nectar, and returning wearily drop on the alighting-board close to the entrance and crawl in, then can be found the drones thickest in the hive or among the boxes where the newest, thinnest honey is being deposited; but let the honey-flow altogether cease, and the work of the drones be no longer required, and they will be herded on the outer or sealed combs, and if the dearth continue, they will be driven from the hives entirely. Who can assert that they do not perform an important function in assisting to ripen the honey, or extracting the water from it, quite as necessary as the gathering of it? That hordes

of drones are necessary we do not think; but we are not certain that they may not be too rigorously excluded from the hives. That they are extraordinary gormandizers we do not think, for we have never been able to discover on the outer combs, where the honey has been once capped or sealed over, and where the drones have been all herded perhaps for days, a single cell which has been uncapped by them, and robbed of its store of sweet. There is much concerning the drones which is not yet understood, at least by us, but we have no doubt a great deal will in time be learned, and perhaps many theories held at the present time be modified.

"Red-headed" drones, though in the minority, are by no means exceptional, and are frequently found in large apiaries of Italians, all apparently equally pure.

Since the above was in type, the *British Bee Journal* for June has been received, in which we find the following remarks on the subject of drones by its editor:

In the forthcoming translation of Dzierzon's *Rational Bee-Keeping* will be found a remark by the author to the effect that drones serve no purpose beyond the fertilization of queens, and to this we have taken exception, as follows: "We cannot accede to the author's assertion that the fertilization of queens is the 'sole purpose' of drones' existence. It is well known that when a swarm has left a hive there is often but a handful of worker bees left at home to care for the huge mass of brood in all stages that the hive contains, and should a cold night follow a swarming day, as is often the case, this handful of workers would find it impossible to maintain the necessary heat in the hive, and there would be great loss of brood and bee life. In this condition of things, the drones, the great majority of which are stay-at-homes (few accompanying a swarm) are of immense service, maintaining heat which otherwise the few workers would be compelled to generate for themselves, and setting the latter free to nurse the newly-hatching larvæ. It is true that when the young queen has hatched, and been fertilized, and the weather becomes cold, the drones are slain; but at that time there will be little, if any, unsealed brood in the hive, while thousands of young bees will have hatched into life, rendering the hive populous, and the drones unnecessary. Nor must it be forgotten that drones are not usually slain until "cool weather sets in," or, in other words, until the honey harvest has ceased, a fact upon which is hinged a belief, in our mind, that they are of service in helping to evaporate the honey prior to its being sealed for winter store. Many have noticed the large number of drones

often to be found in supers, and though it is generally supposed they are there as consumers only, it by no means follows that such is the case. The old saying, 'Give a dog a bad name,' etc., is fully carried out with drones, and no one seems to seek for or believe there are any good qualities in them, yet, as many will doubtless be able to substantiate, some of the best results have been achieved in hives whose drones were at least numerous. In that case the thought has been, if the bees did so well with that immense number of drones to keep, what would they not have done without them? ignoring the possibility that the drones may have assisted in procuring the good results. And is it not true that under the present system with drone-traps on during the honey harvest many have cause to complain that their supers, though filled, are left unsealed by the bees? We have hundreds of times seen bees returned from the fields give their honey to drones, and have as often seen drones with their heads in honey cells. Is it certain that the drones in this case are not in a sense honey-carriers? We know they have no honey sacs, as have the workers, but that will not make our suggestion ridiculous. The bees prepare the food for the nursing bees in their stomachs. May not drones prepare honey for storage in a similar way? They have no honey sac to collect it in, their duty lying at home except on special occasions at certain hours of the day. Bee-anatomists who search only for what they hope to find may perhaps overlook truths that have not been suggested. But let the influence be what it may, we cannot believe the drone to be as useless as he is accredited."

Food Poisoning.

In the BEE JOURNAL of May 31st, we gave an instance where cheese, manufactured from milk produced by cows that had been fed glucose meal, had "rotted down in thirty days," and gave a recital of some of the dreadful consequences which would result from the consumption of such poisonous food. As proof that our opinion was well founded, we reprint the following telegram to the *Inter-Ocean*, dated Adrian, Mich., June 19, 1882:

Since Friday evening last some seventy-five people of this city have been poisoned by cheese. Whole families have been suddenly seized with violent vomiting and purging, and in many cases severe illness has resulted. In one case, that of John L. Smith, only the most vigorous treatment prevented a fatal result, while to-day several men who had partaken of the cheese were so ill that they could not attend their labors in the Lake Shore and Peninsular car-shops. The cheese was sold by several grocers, but was the product of one

factory on the 20th of May last. A microscopic examination shows the cheese to be filled with minute parasites, but the deleterious effects are believed to have arisen from the presence of an accidental or otherwise dangerous substance. The affair certainly demands an official investigation, and the cheese should be submitted to a scientific analysis.

It is not difficult to anticipate what an investigation will demonstrate, nor to place the blame for this extensive poisoning just where it belongs. Glucose is undoubtedly at the bottom of it all. Unless some stringent repressive measures are adopted by Congress, poisoning will become as common as are now the lesser ills, our nation will become one of chronic dyspeptics, and our successors will be effeminate and perhaps imbecile. In fact, it is difficult to enumerate the evils which will result from the constant consumption of poisons that will cause cheese to "rot down in thirty days," and imperil at one time the lives of "some seventy-five citizens" in one small community. Life and health are no longer safe; the most substantial articles of food are adulterated with deadly poisons, and milk, the first food of nature, is drawn from the udder a poisoned stream.

We have long held that Congress possessed the Constitutional right to regulate the traffic in and manufacture of food adulterations, as also, to restrict or prohibit the sale of adulterated food. By a recent ruling of the Court of Appeals, even State laws can prohibit the manufacture of deleterious food of any description. The following extract from a late number of the *St. Joseph Herald*, cites a case in point:

Missouri has a new law forbidding the manufacture or sale in this State of any imitation of butter, no matter whether represented to be genuine or not. The oleomargarine interest made a desperate fight in a test case, carrying it to the Court of Appeals on the question of the law's validity. The decision is that the prohibitory act is Constitutional. "A statute prohibiting the manufacture and sale of any article of food made in imitation of a wholesome article in common use," says the court, "which imitated article is so repugnant to the tastes and prejudices of our people that they will not eat it when advised of its real character, but only when cheated into the belief that it is the genuine article, in resemblance of which it is made, is a statute fairly within the police power of the State, not opposed to any provisions of the Constitution of the United States, and the wisdom of which is not to be called into question in the judicial courts; and this is so,

although particular samples of such imitating articles may, in the opinion of scientific men, be as wholesome and beneficial an article of food as the original substance in imitation of which it is made." The effect of this decision will be the suppression of several factories in St. Louis, where the sale of imitation butter, made from lard, beef fat, and other materials, has been extensive.

The decision of the Court of Appeals covers more ground than even we had assumed. We had no doubt it was Constitutional to prohibit the manufacture and sale of deleterious articles, under any but their right names, not only as a matter of commercial policy, but as a sanitary measure; the Court decided "A statute prohibiting the manufacture and sale of any article of food made in imitation of a wholesome article in common use... is a statute fairly within the police power of the State, not opposed to any provisions of the Constitution of the United States, and the wisdom of which is not to be called into question in the judicial courts.... although particular samples of such imitating articles may, in the opinion of scientific men, be as wholesome and beneficial an article of food as the original substance in imitation of which it is made."

When an article has a tendency for evil far in excess of any good which it can accomplish, and the principal use of which must be in a fraudulent manner, if it is not a matter proper to be legislated upon and prohibited, except under special restrictions, then, surely, there is no cause for legislation, and Congress had better renounce all power to protect the people. Glucose is as much a public abuse as oleomargarine or suine, and far more dangerous in its consumption, because of the multiform shapes in which it is imposed upon the public. Congress must legislate upon the subject of food adulteration.

☞ We have received the premium list of the Thirtieth Annual State Fair to be held at Indianapolis, Ind., Sept. 25 to 30, 1882. In it we notice \$25 as premiums for honey, \$2 for wax, and two diplomas for bee-keepers' supplies. These amounts ought to have been ten times as large, and more varied.

☞ Do not let your numbers of the BEE JOURNAL for 1881 be lost. The best way to preserve them is to procure a binder and put them in. They are very valuable for reference.

AMONG OUR EXCHANGES.

MISCELLANEOUS.

Watch Them.—The *Indiana Farmer* gives this advice to beginners:

Watch all colonies closely that you have hived on empty frames, and see that they build the combs straight. Watch all colonies that have cast a swarm, and see that a young queen does not hatch out and lead off a second swarm.

Watch all colonies and nuclei containing young queens, that they do not become queenless by the young queen being lost while on her bridal trip. Watch all queenless colonies that they do not become infested with fertile workers. Keep a frame of uncapped brood in the hives that have been queenless any length of time.

Watch the sections of comb honey and take them off just as soon as sealed over, to protect their pearly whiteness. Watch all combs packed away, that the worms do not destroy them. If you find any signs of their work fumigate with brimstone. Watch that the entrance to the hives does not become clogged with grass and weeds.

Watch the source of the honey supply in your immediate locality and see where it can be improved by planting.

Watch your neighboring bee-keeper and see if he has better success than you. If so, why?

Watch and remember what you see.

Watch and you will be sure to improve by the care taken.

Unused Honey Resources.—A late number of the *Chesterfield, Eng., Courier*, has the following very sensible communication from one of its contributors:

A few months since in an article on "Agricultural depression" you called the attention of your readers to some of the minor products of the farm, and pointed out that one of the best remedies for the present distress was to give attention to sources of profit which have hitherto been much neglected, and not to allow the foreigners to take out of our country for eggs, poultry, fruit, etc., large sums of money that would be better in the pockets of our own people.

Now without staying to express my own opinion on these matters—which might not, perhaps, quite accord with yours—will you kindly allow me to direct attention to one of these minor industries of the farm and cottage garden which certainly at present is not very productive, but which under better management might prove a source of considerable profit to the small farmer and cottager, as well as a most interesting occupation and amusement to those who have more leisure, I mean the keeping of bees.

It will be seen from an advertisement in your columns that the British Bee-Keepers' Association is kindly sending an expert to give a lecture in Chesterfield on bees and bee-keeping, and it is arranged that this lecture shall be given in the Stephenson Memorial Hall, on Saturday next, at 3 p. m., under the presidency of W. Gladwyn Turbutt, Esq.

Those of your readers who will take the trouble to attend—and as the lecture is entirely free, it is only the trouble—will, I think, be surprised to find what an extremely interesting pursuit bee-keeping is and how very remunerative it may be made under a proper system of management, at least in ordinary seasons and situations.

The old wasteful and cruel system of murdering the poor bees to obtain their honey—almost equivalent to slaying a cow when a jug of milk is wanted—was, it is true, seldom profitable, as indeed it did not deserve to be, but the modern method, which Mr. Blow will explain and illustrate on Saturday, will show all who care to learn how these industrious little creatures may be made to afford great pleasure and profit to all who treat them properly.

To show the importance of the matter I may say—and all who really understand the matter will bear me out in asserting that during last summer tons, literally, of honey was wasted in the immediate neighborhood of Chesterfield for want of laborers to gather it in—those who should have been working in this harvest for us having been burnt in the sulphur pit in the previous autumn, or worse still, left to perish of hunger and cold for want of due care and attention.

We hope, however, that the spread of information on the subject and the consequent establishment of better systems may soon place us in a better position, so that when another such season occurs, we may be able to gather in a large share of the rich gifts a bountiful Providence supplies, and that this country may not be dependent on other lands for the supply of what we carelessly and ignorantly allow to run to waste at home.

A Mule's Amusement with Bees.—A California exchange gives the following:

I was visiting a gentleman who lived in the vicinity of Los Angeles. The morning was beautiful. The splash of little cascades about the grounds, the buzz of bees, and the gentle moving of the foliage of the pepper trees in the scarcely perceptible ocean breeze, made up a picture which I thought was complete. A mule wandered on the scene. The scene, I thought, could have got along without him. He took a different view.

The mule had wandered up close to a large bee hive, and got stung. His eyes lighted up, as if that was just what he was looking for. He turned on the bee hive and took aim, and fired. The bees swarmed.

They lit on that mule earnestly. After he had kicked the last bit of bee hive so high that he could not reach it any more, he stopped for an instant. He seemed trying to ascertain whether the 10,000 bees which were stinging him meant it. They did.

The mule turned loose. I never saw anything to equal it. He was enveloped in a dense fog of earnestness and bees, and filled with enthusiasm and stings.

I had no idea how many bees a hive would hold until I saw that bee hive emptied on that mule. They covered him so completely that I could not see any of him but the glare of the eyes. I could see from the expression of his eyes that he didn't like the way things were going.

Not only was every bee of the disturbed hive on duty, but I think the news had been conveyed to the neighboring hives that war had been declared. I could see bees flitting to and fro. The mule was covered so deep with bees that he looked like an exaggerated mule. The hum of the bees and their moving on each other combined in a seething hiss. Numbers were telling on him. He looked distressed. He had always been used to kicking against something, but found now that he was striking against the air. It was very exhausting.

He finally got so he did not rise clear of the ground, but continued to kick.

The intervals grew longer and longer, until he finally was still. The bees stung on. He looked as if he thought that a mean, sneaking advantage had been taken of him.

I retired from the scene. Early next morning I returned. The sun came slowly up from behind the Eastern hills. The light foliage of the pepper trees trembled with his caress. His golden kiss fell upon the opening roses. Bees could be seen flying hither and thither. The mule lay near the scene of yesterday's struggle. Peace had come to him. He was dead. Too much kicking against nothing.

Bees and Honey at Fairs.—The *American Agriculturist* for July contains the following:

At the last National Convention, which was one of the most pleasant and profitable bee-meetings ever held in America, it was resolved to make an effort to have many fine exhibitions at the State and district fairs of 1882. In England and other parts of Europe, these exhibitions are conducted on a grand scale, and excite much interest. They are thought to be great educators, and to stimulate the honey market to a large degree. It is important to secure the offering of generous premiums. The State and Central Societies of Michigan have already secured favorable action by two of the largest Agricultural Societies of that State. Let all other societies do the same. It is probable that in no other way can the interests of bee-keepers be so rapidly advanced.

CORRESPONDENCE

For the American Bee Journal.

Light versus Dark Italians.

W. Z. HUTCHINSON.

Mr. Aaron Benedict says that it "is much easier for the careless breeder to rear dark than light-colored Italians, hence they are ready to praise the kind of bees they have, and if queen-breeders, they can send out all the hybrid queens they can rear, if dark."

The testimony of all queen-breeders, and my own experience agrees with their testimony, is that to breed for and obtain light color in bees is one of the easiest traits to be obtained by breeding. In reply to the remark about the breeders of dark bees being able to send out hybrid queens, I would say that queen-breeders do not rear their queens from hybrid queens. It is just as easy, and requires no more work, to rear queens from a pure queen, than to breed from a hybrid queen. What breeder would be so foolish as to send out hybrid queens for pure queens?

Mr. B. says: "I believe if these advocates of dark Italians had queens that were light-yellow, and produced all light-yellow bees, they would sing a different tune." In reply I would say: show me the advocate of dark Italians who has not also tried the light Italians before "singing his tune."

Mr. B. says: "It is the instinct of all honey bees to gather honey." Just so, but does not Mr. B. know that some bees possess this instinct in a greater degree than others, or else with the instinct is joined a greater ability?

Again, Mr. B. says we should have "in view, first, the lightest-colored bees; second, large; third, docility." To make the joke complete, he ought to have added, fourth, honey producing qualities. In my opinion, honey production, hardiness, prolificness, amiability and color should be bred for in the order named, but I fear that some have bred in the reverse order.

The editor of the *Instructor*, in an editorial in the May number, expresses my views so exactly, that I hope I may be excused for quoting his concluding paragraph, he says: "We do not claim that the dark Italians are best simply because they are dark. Although there is undoubtedly a natural difference in many respects in the two strains, we think the difference is caused principally from the majority of bee-keepers having bred almost exclusively for color, without paying enough attention to other points equally or more important, such as vigor, prolificness, honey gathering qualities, etc. If color is not gained at the expense of these qualities, well and good. But we fear that in too many instances it is.

When breeders begin to realize that color of itself amounts to nothing; that queens may be as yellow as a gold piece and still be worth nothing as producers of business bees, then, and not till then, we may expect to see a general improvement in the race." Rogersville, Mich.

California Apiculturist.

Evaporator for Extracted Honey.

W. W. BLISS.

In the first engraving A shows an opening two inches wide, covered with wire cloth extending the whole length of the tank, and the whole is covered with a narrow roof, to keep out the rain; B is an iron rod to hold the upper part of the tank together and keep the roof from spreading; C C are posts, 3x4 in.; F is a piece of 3x4, extending across from post to post under the bottom, and is let into the posts $1\frac{1}{2}$ inches, to support the weight; D is a honey gate; E E are pieces of iron bent around the posts, and bolted to F to keep it from spreading apart at the bottom. Or instead of these bent irons, an iron rod as at B, may be run through the

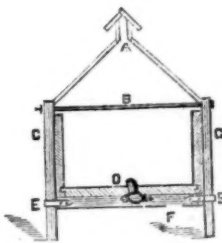


FIG. 1—End View.

legs below the tank, or both rods and bent clasps may be used and thereby secure additional strength.

In the second illustration A A A A are window glass, B B B are the posts; C C C are the ends of the bolts; D is the honey gate. The tank is made of two-inch plank, and is 7 ft. long, 3 ft. wide, and 20 inches high, all inside measure. The ends should set back from the ends of the sides about two inches, and let into the sides and bottom about $\frac{3}{8}$ of an inch. The roof should be made tight, so that it will not leak; one side is made of boards; the other side has glass in it, so as to let in the sun, and should face south.

To put in the lining, go to the tinshop and buy some sheets of I. C. tin, and have the tinner turn the edges for clinching, as they do for roofing. Lay the bottom out on a floor, hammer down the clinches, and solder all tight. Take the measure of the inside of the tank, and then turn up the edges and ends of your bottom to that size, making it $\frac{1}{4}$ inch smaller all around than the inside of your tank. Now put the bottom lining in its place; begin on one side and put in the rest of the lining, one sheet at a time, clinching and soldering as you go. The lining should be bent over the top of the tank, and nailed to the outside with lath-nails.

A tank like the above ought not to cost more than \$15.00 and will hold about 3,000 lbs. of honey. When completed the whole of the wood-work should be treated to one or two coats of black or some other dark-colored paint that will absorb the sun's rays and add to the evaporating powers of the tank.

It would be difficult to tell just how fast it would ripen newly extracted honey; it would depend upon the weather and how thick the honey is when extracted. If the weather is cloudy, cold, and damp, it would not ripen the honey as rapidly as it would.

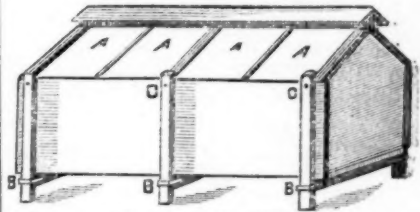


FIG. 2—Side View.

if it was clear, hot and dry. Here in Los Angeles County, an evaporator the size as described above would (if full) ripen rather thin honey in about 4 or 5 days; it depends upon how thin the honey is, and how thick you want it. You can extract the honey before it is capped over, if you have clear weather to ripen it in.

Los Angeles, Cal., May, 1882.

For the American Bee Journal.

Specimens of *Apis Dorsata*.

WM. F. CLARKE.

Well, I have seen her, and him—worker and drone—two of each, in alcohol. These four insects represent the price of a farm, and are all our friend Jones has to show, as yet, for his Oriental pilgrimages, and those of Frank Benton, in search of "the big bee of Java."

It is a big bee, and no mistake, about four times the size of *apis mellifica*. I am not much of an entomologist, and this description is not meant for the eye of Prof. Cook, or any other scientific expert in the appearance and ways of that division of the animal kingdom called *Insecta*. I can only give the crude impressions of one who has been familiar, sometimes too much so, with our common, and improved races of bees.

The *bigness* of this bee is what first strikes the ordinary observer, and next to that its beauty. It is golden-banded like the Italian, and silver-banded too, but with a more decided and larger black terminus to the abdomen, in this respect resembling the Cyprians and Syrians. A beecurled up in alcohol, does not display itself to the same advantage as when on the comb or on the wing, but this bee, stretched out, must be a well-proportioned, handsome insect. The body is large and roomy, giving great capacity for honey carrying; and the wings are long and broad,

showing great power in flight. The head is remarkably small and tapering, and if, as is probable, the length of tongue is in proportion to the size and shape of the head, we may hope that this bee will be able to rifle the red clover of its luscious treasures. Its weight, however, will bend over the stoutest stalk of clover, and this may create difficulty in operating on the blooms. Most likely any advantages we may obtain from the advent of this insect, will be the result of judicious crossing. The drone is comparatively small, not so long, I think, as the worker, but aldermanically corpulent, like all drones. I would hazard the opinion that he is not too large to mate with the bees we have. The possibility of a cross the other way is more doubtful to my mind, for if the Java queen is large and long as compared with the worker, like the races of bees which we now have, she must be not only an Amazonian, but a Brobdignagian creature. If we get even a hybrid variety from *apis dorsata*, our hives must be greatly enlarged, and if we breed them pure, our hives must be quadrupled in size. Frames, honey extractors, comb foundation machines, perforated zinc, honey sections, etc., must all be made on a larger scale. If the mandibles are long, strong, and sharp in proportion to the other parts of this bee's body, I am afraid they will puncture fruit, and then there will be trouble in the camp. At present we have pretty clear evidence that our bees do not puncture fruit, but only avail themselves of the sweet juices liberated by wasps, hornets, and birds. It will be an evil day, if it ever comes, when fruit culture and bee-keeping cannot flourish, side by side.

But, what of the sting? That's my chief trouble in view of the coming of *apis dorsata*. It is all I can do to get along with the moderately-sized stings that now menace the adventurous bee-keeper. When hundreds of thousands of live daggers half an inch long are whirling around in the air, each with a gigantic insect "ready, aye ready" to use it on a poor bee-hated amateur apiarist like myself, I think I shall sigh with the poet,

"O for a lodge in some vast wilderness,"

and betake myself to parts unknown and unfrequented by *apis dorsata*. But Mr. Jones assures me that they are very amiable insects, and though formidably armed do not know the use of their deadly weapon. It may be so. We know that the horse and the elephant are ignorant of their power, or they would not submit to be bully-ragged about by that tyrant man. But suppose a cross between the Cyprian and Java. Horror of horrors! There will be nothing for it but to take a back seat in

"Some boundless contiguity of shade"

too dense for a bee to penetrate.

I am not much of a microscopist, and Jones' microscope is not of very high magnifying power, but if my observations were correct, the sting of *apis dorsata*, like that of the bum-

ble-bee, is without barb. Let us hope it will also be found to be without virus, and that the "big bee of Java" will be like the big Shanghai fowls in disposition, as compared with the game breeds.

Among other attractions that may be trumpeted forth to attract a large attendance at the next annual meeting of the North American Bee-Keepers Society, there is this, that Mr. Jones will exhibit his four precious Java bees on that occasion. Meantime, for the next four months, I shall have the high satisfaction of holding some such a colloquy as this with not a few of my bee-keeping rivals: "Have you seen *apis dorsata*?" "No." "Well, I have."

Listowel, Ont., June 5, 1882.

Rural New Yorker.

Parthenogenesis in Bees.

PROF. A. J. COOK.

In the current volume of the *Scientific American*, page 186, there is given an abstract of some experiments of one Abbe Giotto Ulivi, in reference to parthenogenesis among bees. The conclusions drawn from these experiments are as startling and absurd as would be the assertion that the progeny resulting from mating the horse and the ass would be anything but a mule. The statements made not only contradict some of the most thoroughly settled truths of science, but actually contradict the every-day experience and observations of every intelligent and observing apiarist. I should not think that these wild assertions were worthy of notice, only that some of the papers, even the bee papers, give the article a place, and make editorial comments that would lead one to think that there was good ground for the opinion that Huber, Dzierzon, Langstroth and a host of others were all mistaken, and did not see what they said they saw. Is it possible that one unknown man's mere assertion shall weigh more than the testimony of many widely known and thoroughly reliable men, and they, too, often men of the very highest scientific attainments?

The following are the points which are denied, most of which are easy of demonstration, and some of which are proved by the daily experience of every bee-keeper:

1st. Queens are impregnated outside of the hive, and while on the wing; 2d, they are fertilized but once; 3d, drones are killed in mating, and some of the genital organs torn off; 4th, the eggs which hatch into drones are not impregnated, and so the law of parthenogenesis is true among bees, so far as the drones are concerned; 5th, eggs from virgin queens will hatch and all of the bees be drones; 6th, some worker bees will lay eggs. Such bees, known as fertile workers, have never mated, and all the eggs from them produce drones.

That queens are fertilized without, and not within the hive, is very easy of demonstration. In fact it is demonstrated in nuclei hives by the

hundred every year. I have demonstrated it in several ways. I have clipped one of the wings of queens many times, just as they emerge from the cells, and in every case I had a drone-laying queen, if she laid at all; though in many cases there were scores of drones in the hive. Of late years I have had only drones in one or two of my choicest hives, having taken care to keep them from all the other hives; and in my small or nuclei hives I seldom have any drones. In such cases, if Ulivi is correct, fecundation would never occur; yet I almost never fail to secure fertilization. I have often shut the young queens in the hives, often with drones, and and never would I secure fertilization till she was allowed to fly forth. From our every-day experience it is hardly possible to refrain from the conclusion that Ulivi is a fraud.

It is just as patent that queens are only fertilized once. My queens that are in droneless hives, and with wings clipped so that they cannot fly out, are, of course, utterly precluded from a second mating, and yet they remain fertile and lay worker eggs just as long as other queens that have good wings, or are surrounded with drones.

It is not so easy to prove that drones are killed or mutilated in the sexual act, though I have little doubt that it is true. I have seen several cases of bumble bee mating, and in every case the drone was killed. The honey bee is so nearly related to the bumble bee that it is very certain that the same is true of it. Again, the drones, if held in the warm hand on a warm day, will experience orgasm, and at once die. Mr. D. A. Jones found that he had lost a great many more than the usual number of queens as they flew forth to mate, on his islands last summer. This is easily explained on the theory that the drone expires in the sexual act and falls to the ground and drags the queen with him. In the water she would not be able to rise, and of course would be lost.

Of course, I do not positively know by actual observation that the white thread that hangs from a queen as she comes from mating, is a portion of the male genital organs. But I have found, with many others, that queens I had shut in the hives for five days after they had emerged from the pupa state, and then let out to fly, would, without exception, commence laying if the white thread was appended to the abdomen, even though there were no drones in the hive, and would fail as surely to lay worker eggs, when the white filament was absent. I have had several experimental queens reared in the early spring, before there were any drones, and they would fly out every day and return, but never carry the filament attached to the abdomen. Any one can easily try this, and will become convinced very soon that with no drones there will be no thread.

That drone eggs are fecundated, will be very surprising to the many apiarists that have reared queens when there were no drones, in late fall and early spring, and found that there were abundant eggs laid, but

that all produced, without exception, drones. Ulivi's assertion that eggs remain over the winter, might find credence before the days of foundation, but now it will fall so flat that it will have only two dimensions.

Ulivi's last statement—that there are no such bees as fertile workers—makes me think of Byron's remark in reference to Bishop Berkley: "When Bishop Berkley said there was no matter, it was no matter what Bishop Berkley said." It is an exceedingly unfortunate time to throw such a remark at American bee-keepers. Our new bees—the Syrian and Cyprian—will give us fertile workers with more facility than Ulivi can make unwarranted statements. Such an assertion needs no refutation in America, no matter what is true in Europe.

Michigan Agricultural College.

[Prof. Ulivi has written a long letter to *L'Apiculteur* for June, 1882, published in Paris, France, replying to many strictures that had therein been made to his peculiar theories. The editor of *L'Apiculteur* announces the close of the debate in the following words: "We now declare the affair heard on both sides, and consequently the debate closed. If we judge correctly, the author of fecundation in the hive will now have to talk to the wind!"—ED.]

Farmers' Home Journal.

What is a Fertile Worker?

G. W. DEMAREE.

Several correspondents have of late substantially asked the question which we have chosen for a caption to this article, "What is a fertile worker?" The question is a fair one, and is of sufficient importance to justify an answer in detail. The question is usually answered by saying that a fertile worker is simply a worker bee that possesses the power or functions to lay a few eggs, which hatch out drones only. "Is this all?" It is all that we can see with our eyes, but if we study the natural history of the bee (*Apis mellifica*), the phenomenon resolves itself into a proposition supported by an abundance of reason, and is certainly just what we must or might expect as a result of the peculiar laws that govern in the process of perfection of the queen honey bee.

The worker bee is a female in every respect that the queen is. The same egg which produces a worker bee, when under the conditions adapted to that end, will produce a queen when placed in a position favorable to the development of a queen. I have demonstrated this proposition time and again by removing the infant larva from the royal cell in a hive of black bees, and substituting for it a worker larva of the same size from Italian stock. If skillfully done, you will change the bees in that hive and demonstrate to your entire satisfaction

that the difference between the queen and the worker is simply and solely a matter of development. It is a well-known fact that a queen is good or indifferent in exact proportion to her development.

With these facts before us, the question, What is a fertile worker? is logically answered. A bee reared in accordance with nature's laws governing the processes which perfect the undeveloped (female) worker bee, though sufficiently developed to enable her to lay a few eggs, is not a queen; she is a fertile worker. Worker bees being undeveloped females, is it not reasonable and probable that some of them will be more developed than others, and that now and then one may be sufficiently developed to lay a few eggs?

Such are the facts, and they are supported by reason.

Christiansburg, Ky.

London Journal of Horticulture.

Progress of Bee-Keeping in England.

A. PETTIGREW.

In practical and scientific apiculture considerable advancement has been made during the last ten or twelve years. Though slow the progress has been certain and encouraging. Many clever apiarists of the present time had not mastered the rudiments ten years ago. This advance has been made amidst the discouragements of unfavorable and disastrous seasons for bee-keeping in England. If the country had had seven years of sunshine out of the last ten instead of seven years of cloudy and unpropitious weather, the value of bees to the community would be better known and consequently more highly appreciated. Notwithstanding the inclement seasons and unfavorable harvests, bee-keeping is moving onward in the right direction. Knowledge is spreading; inventions great and useful are introduced; old and experienced men use them with advantage and grasp the whole subject of bee-keeping more firmly. Many young men who a few years ago were commencing attention to the subject have advanced and are expert in all manipulations in the apiary. Much knowledge has been widely spread during the last few years, and almost everywhere happy results are already evident. We predict that the progress will increase, and that bee-keeping will yet become a source of happiness and profit to thousands of the rural population of Great Britain and Ireland.

During the last ten years we have lamented the misfortunes of beginners, for two destructive seasons killed every bee in some gardens; in others one-half, two-thirds, or three-fourths were lost. Other seasons, not destructive, but unfavorable for honey-gathering, caused great disappointment amongst beginners. Some lost heart altogether, and some thought that a change of hives from straw to wood, or wood to straw, would bring success. In many cases the change was made at some expense

without better results. Apiarists are, however, very hopeful. A few days ago I had a letter from an experienced bee-keeper in the north of Scotland, who is anticipating a bright and successful future not remote. And why should he not? People who plant orchards look hopefully forward, and derive encouragement and pleasure by considering the future. Bee-keepers who have been successful some years are like other successful men in expecting greater success in the future.

The introduction and use of artificial comb foundation is a marked improvement in the management of bees. Supering is made easy by the use of these foundations—easy for both bees and their masters. By filling supers and sections with the foundation the bees readily adopt them, and soon begin to thin the wax and lengthen out the cells, and make them ready for the reception of honey; thus the bees have less wax to secrete and more honey to store. The stronger foundation used for brood combs are as useful as those used in supering, for if given to first swarms at the hiving time, breeding commences at once, even before the cells are finished the eggs are deposited on the foundation, and the cells are afterward built around them. If supering is made easy by employing comb foundation, progress in breeding is also made by their use. We thank the American bee-keepers for the invention and introduction of comb foundation.

We are also, I think, indebted to the American bee-keepers for the introduction of sectional supers, which are useful in the retail honeycomb trade. Sections of 1 lb. and 2 lbs. of comb are very salable, easily handled and carried. These small sections when well filled are so presentable and tempting on breakfast and tea tables that commendation is quite unnecessary. If exhibited for competition at honey shows they should be judged by number or weight from a given hive or from a single apiary. Larger supers of glass and wood are more sensational in exhibitions. Bee-keepers who study profit will use the kind of supers most salable in the market. Last season our glass supers, nearly 20 lbs. each, were sold at 2s. per lb.; straw and wood supers at 1s. 4d. and 1s. 6d. per lb.

The attention that is now given to the comforts of bees by advanced men is another evidence that progress is being made. A few years ago hives were not sufficiently protected in winter. Bees are natives of a warmer climate than that of England, and therefore suffer much in our cold winters. Many bee-keepers now know this and cover their hives well in winter. For many long years the most advanced bee-keepers in Scotland have covered their straw hives effectively. The advanced men of the bar-frame school are now having hives made with double walls, and fill the cavities between the walls with chaff. This is a great improvement, and in severe winters these chaff hives may be trusted to protect the

bees. The honor of the invention of the chaff hives belongs to America. One more invention or discovery will perfect the bar-frame hive—namely, a material more porous than wood, which will permit the moisture of bees to pass through and out of the hives. We have so many clever beekeepers seeking improvements now that I believe the discovery will be made soon. Meanwhile many men are doing what they can to ventilate the wooden hives and make their bees more comfortable during winter.

Evidences of progress in bee-management could be easily drawn from many points of practice now extensively followed. One pleasant feature of the progress already made by beekeepers I would like to notice. It is the fact that they now write and speak more kindly of those who differ from them in opinion than they did some years ago. The best men amongst us—the real Samsons of beekeeping—refrain to a great extent from employing dogmatic language. They know well that whatever is true in science and the practice of beekeeping will advance steadily, and sooner or later establish itself. On many questions much can be said on both sides; therefore let us act on the principles of "free trade" and fair play in exchanging opinions, always remembering "kind words never die," and also that "charity never faileth."

Bear in mind that great results more frequently come from perseverance than from great strength—"A falling drop will cave a stone."

Bowdon, England.

For the American Bee Journal.

How to Hunt Bees in the Woods.

F. M. JOHNSON.

You require a small box (which can be made of any kind of wood). The box is of a slanting shape, and should be made according to the following dimensions: Bottom, 4x6 in.; sides, 4 in. at one end and beveled down to 1½ in. at the other; end pieces—one, 4x4 in., the other 1½ deep by 4 in. long. The top should be a separate piece, and made as follows: Width, 4 in.; whole length, 12 in. cutting down 4 on one end for handle, and inserting a glass 3x1 in. flush with the under-side at the other end, as near the end as convenient.

The box should contain a piece of honey comb about 1¼ in. in thickness, which should be scented with bee-bait (the directions for making this are given below), covering the bottom of the box. Taking the box in the left hand and the cover in the right and approaching the bee while at work on the flower or shrub, you insert the box under the bee and quickly putting the cover on the top (in such a manner that the light can shine in), you have the bee secure in the box, then put the box on a stake 3 or 4 feet high, taking care not to jar the box more than necessary. Then shove the cover down so as to shut out the light from the glass, when the

bee will go to work on the honey, which can be ascertained by holding the ear to the box, as it will cease its "humming" as soon as it commences on the comb. Then the cover can be taken off and the bee will remain on the honey. Then take a position where you can have an unobstructed view of the box and its surroundings, and wait for the bee to come out, which it will do in from one to three minutes, and commence circling in the air, gradually enlarging the circles until it finds its latitude at which it will immediately start in a direct line for its home, and here care must be taken to accurately mark the direction it goes. You must now wait for a short time, when the bee will return and re-enter the box, which it will repeat as long as the box remains. If the tree should be near by other bees will accompany it on its second or third return; if at a great distance it will take a longer period for the bees to "double up."

If you have gotten 15 or 20 bees at work on the line you can safely take the box to a point as far distant, in the course the bee has taken, as you choose, being careful not to pass where the bee is likely to tree, as they will not follow the other way. Now open the box again, and if you are on the line the bees will find it in a very few minutes. If they do not you will know that you are off the line or have passed the tree and should move your box to a point that you know is on the line. This is to be repeated until you run the bee to its tree.

If you have but a few bees it will be necessary to shut them in the box and move them in this manner from 30 to 60 rods at a time, then open your box and wait for them to go and return. This is to be repeated until you have found the tree.

Cross lining is important. If anything should prevent you from following the bee in a direct line from where you first start it, you can move the box a distance to the right or left and start it again, by which means you can center the bee on some prominent object whereby you can invariably locate the tree within a radius of 5 or 6 rods.

Half an ounce of tincture of Annis mixed with a half dozen drops of oil of Organum, to be kept in an air-tight bottle.

Instead of using honey in your box, put a quantity of granulated sugar in a bottle and dissolve it with cold water until it becomes a thick syrup, and fill the comb in the box with this liquid, which is better than the real honey.

Greystone, Conn.

Examine the Date following your name on the wrapper label of this paper; it indicates the end of the month to which you have paid your subscription on the BEE JOURNAL.

When changing a postoffice address, mention the *old* as well as the new address.



Read before the Marion Co., Ind., Convention.

Comb or Extracted Honey.

F. L. DOUGHERTY.

In answering the question—"Which is the most profitable?" I would decide at once in favor of extracted honey. The phrasing of the sentence implies that the bees are to be worked for the best results, the greatest profit, regardless of other considerations. Still, in deciding which is the most profitable in individual cases, various circumstances and conditions must also be considered, and can only be decided by each one for themselves.

As to the relative amount which can be secured in ordinary seasons, the yield of extracted will double that of comb honey, and at other times it may be possible to secure quite a fair crop of extracted honey, while the bees would not have one pound of comb honey. As, no doubt, all of you know, the secretion of honey depends almost entirely on atmospheric conditions. There may be several days at a time when the bees will scarcely gather anything, when on account of favorable weather, a few days will come when the flowers seem literally filled to overflowing with nectar, and these few days may constitute the entire honey yield of the season. If at times like this, the hives be well filled with plenty of empty combs, the amount gathered will be surprising, but if the bees must stop to build the comb in which to store the honey, the surplus secured will be but very little, if any at all.

In producing extracted honey, particular attention should be given to quality, and every drop should be well ripened before it is closed up in casks, cans, or jars. None but a thoroughly good article should be placed on the market, as the price and future sales will depend very much on the quality of honey you offer.

As a general thing the difference in price between extracted and comb honey ranges at from 5 to 8 cents per pound, but where you have a good home market at retail, extracted honey will bring within a few cents of as much per pound as comb honey. As far as practicable each grade of honey should be kept separate. In order to do this a vigilant watch should be kept of the different bloom. The white clover honey should be extracted closely before the basswood blooms. A little clover in the basswood honey, however, will not do the harm that would result if the proportions were reversed. Basswood honey has a peculiar flavor, and it should not be allowed to become mixed with any other kind of honey.

As to how fast the honey should be taken, we think it makes but little difference in its quality, providing it is given the proper care afterward, and we would like to impress on your

minds the very great importance of this care. New extracted honey should stand in open mouthed vessels for quite a while before being closed up, so as to become thoroughly ripened. It should also be borne in mind, that with the extractor we are likely at times to take every pound of honey in the hive, and if at a time like this, the flow of honey should cease suddenly, the bees must be fed, or they are likely to perish for the want of necessary stores. A necessary point to be taken into consideration is the time necessarily required in extracting honey, for during good yields the honey must be removed every third or fourth day, for generally colonies run for extracting are not so likely to swarm, unless neglected, and are very full of bees.

Northwestern Wisconsin.

The N. W. Wisconsin Bee-Keepers' Convention met in LaCrosse, Wis., June 9, 1882, at 10 a. m., Pres. Markle in the chair. Minutes of last meeting were read and approved.

Wm. Lossing moved that the meetings hereafter take place about May 1 and October 15. Carried.

The President called for a report from all the members present as to the successful wintering of bees the past season. The loss reported was about one in fifty.

W. Lossing complained of being troubled with a species of bee-destroying bird. The bird he said was a trifle larger than the kingbird, of a brownish color, with white breast. He said he shot 57 in one day.

Pres. Markle complained of being troubled a great deal with the kingbird, and thought the best way to dispose of them is with a good shotgun. He asked the opinion of the members as to the best bee-hive, and it was generally agreed that the Langstroth was the best; at any rate, a hive to be better must be on the same principle.

The question arose, "Would it be proper for the Society to place a price on honey, and to appoint some one to mark it according to grade?"

Mr. Lossing was of the opinion that, as he understood G. J. Pammel to say he would open a honey depot at LaCrosse, all the members could let him have their honey, and he would dispose of it as he best could.

Question—Does bee-keeping pay to make a specialty of it? Upon this question quite a discussion arose. After several members gave a statement of their bee account, it was agreed that it does pay.

Question—What is the best method for compelling the bees to work in the second story? Answer—Take one or two frames of brood from the brood chamber, and put them, with a few bees, into the second-story, when the bees will take care of the brood and commence work in that apartment.

Question—Has any one seen a queen in the act of fertilization, and what were the results to the drone? Mr. Lossing said that his assistant had

seen a case, and that the drone died instantly, showing that it performs one duty.

Question—How does a bee get pollen on its legs? Answer—It takes the pollen from the flower with its tongue, and puts it on one of its fore legs, from whence with a quick movement it transfers the pollen to the hind legs.

Question—How does the bee get the pollen off? Answer—It backs into the cell and shoves the pollen off with its middle legs.

Question—What queen cells produce the best queens? Answer—Remove the queen from a strong colony that has plenty of brood and eggs, then cut a strip of comb from the bottom of a whole comb with eggs in, about one inch wide, giving the bees plenty of room to build large queen cells. Select the best from the whole number, and you will be pretty certain to get good queens.

The President spoke of the effect of extracted honey on the market. He looked upon it as a great evil, and only there to make room for fraud.

Messrs. Lossing and Pammel rebutted the remarks of the President, after which he expressed a determination to buy a honey extractor.

The Convention adjourned.
G. J. PAMMEL, Sec.

Madison, Wis., Convention.

The monthly meeting of the Madison, Wisconsin, Bee-Keepers' Association, was held at Madison on Saturday, June 10, at 7.30 p. m., and was presided over by Prof. R. B. Anderson. Papers were read by Dr. J. W. Vance, C. Spangenberg, D. D. Daniher and Prof. Anderson.

Mr. C. Spangenberg, on the subject of swarming, said: The month of June is the real swarming month among bees. It then often happens to bee-keepers, who like to have large swarms, and do not care to increase the number of hives more than absolutely necessary, that they are at times troubled with the so-called swarming fever. Although we may have destroyed all the queen cells one day, the same hive may show signs of swarming the next day, and this may be followed by a second attempt, nay, even by a third and fourth, simultaneously, so that we get a genuine revolution in the apiary. To suppress this, I open the hive and sprinkle a small amount of water over and between the frames, which at once quiets the bees. Then I either give them more room or make a new swarm by taking two or three frames of brood and bees, out of each of these hives, or the same excitement will occur again the next day; for at such times they work continuously on queen cells. As the swarming fever keeps the bees away from their work of making honey, it is necessary that the bee-keeper should be on his guard to prevent the occurrence of such periods.

Prof. R. B. Anderson gave the following on bee-keeping and its advantages: Our fields and forests pro-

duce immense quantities of flowers that can be utilized and made to increase our wealth, if bee-keeping as a pursuit is properly encouraged and adopted.

I know but very little about bees, but it has occurred to me to ask how much the wealth of our state and country might be increased by a judicious adoption of bee-culture. We know that we cannot raise wheat and potatoes on the same piece of ground at the same time, but it seems that bee-keeping instead of interfering in any way with the productiveness of a farm, is absolutely beneficial to the plants from whose flowers the bees gather their pollen and honey. Nor does the keeping of bees require much of the bee-keeper's time. I heard a farmer who keeps about 50 colonies of bees and sells about \$200 worth of honey every year, say that he considered this money clean profit, since the bees took care of themselves and claimed no part of his farm for their special feeding. He added that the bees were his only animals that did not annoy him. His horses, and cows, and sheep, and pigs were always after him, teasing him for something to eat, while his bees only asked to be let alone.

As stated, I should like to know to what extent our food produce could be increased by a judicious adoption of bee-culture the country throughout, and I think the results of a fair calculation should be pressed into the notice of the public. They tell me bees will go miles after their pollen and honey, and that therefore every man in the city might keep bees, and in this way furnish his household with the necessary amount of pure and delicate sweet. I do not know how this may be.

I suppose if every family in Madison went into bee-culture, the supply of pollen and honey from flowers would be exhausted, and the amount of honey we should get would be much smaller in proportion than if only a third of our citizens kept bees; but then, on the other hand, the honey-yielding flowers and trees might be vastly increased without any great effort on our part. Indeed, I do not think a selection of trees and flowers with reference to the needs of bees would lessen the beauty of our streets and gardens, and in many instances the gain to be received might stimulate many of our citizens, who now neglect their shade trees and flower gardens, to plant more trees and raise more flowers, thus positively adding to the beauty of our fair city. Bees need intelligent care, but the amount of time required to see to them is so small that no other business in which the bee-keeper is engaged need suffer on account of his bees.

The meeting adjourned to the evening of July 8th, at which time others will present valuable papers.

Constitutions and By-Laws for local Associations \$2.00 per 100. The name of the Association printed in the blanks for 50 cents extra.

SELECTIONS FROM OUR LETTER BOX

Motherwort.—Please give name of plant inclosed, and its value as a bee plant. The bees work on a small bunch in our yard from morning until night, notwithstanding we have the most profuse white clover bloom. It is now six feet high, and full of bloom from root to top. It seems to secrete honey during the entire day. Weather fine and bees doing splendidly.

O. N. WEAVER.

Minerva, Ky., June 19, 1882.

[It is motherwort, and an excellent honey plant. Scatter the seeds from your small patch along the lanes and fence corners. It will take care of itself thereafter.—Ed.]

Sudden Transition.—A more discouraging spring could hardly happen, than that just past. It would have been very disappointing had it followed three good winters and summers; but coming upon the heels of three years that had gone from bad to worse, and then to worst, it was disheartening indeed. One could examine bees in the last days of February; March was encouraging, as a whole, and the first ten days of April all the most ardent lover of apiculture could have wished for; but from that date frosts, cold, rain, and winds were the order of the day, so that the middle of May found bees starving and unable to leave the hive, even had there been bloom, until June. But at this date the prospect is really fine for the future. White clover is indigenous here; and so abundant that it is almost a pest, crowding out other grasses. An abundance is in bloom now, and the ground is matted with that which came from the seed this spring, and which promises to bloom this year; so that we shall probably have a much longer honey season than usual, while the flow is already abundant. A week ago bees were on the verge of starvation, and now supers must be put on or the queens will be crowded. Even melilot sown last winter is branching and will bloom this season. Near my hives is a patch of five acres of white, alsike, common red, and mammoth clovers. The hybrids and blacks favor the white; but alsike is the favorite with yellow bees, though they work on common red where the corollas are shallow, and I have seen them working between the flowerets. On mammoth clover I have not seen a honey bee this spring. Sometimes, though rarely, I have seen them on white and alsike at the same flight. Flowers are unusually fragrant this spring, and especially blackberry, and bees took to it as well as they ever do to raspberry. I am heartily glad to see the JOURNAL take a determined stand against adulteration; but I have not the slightest hope in repressive measures, though preventive

measures are practicable. When we come to understand the nature of the soil, in its relation to society, and enact laws that will effectually prevent the divorcement of labor from the land, adulteration, with a thousand other crimes will be prevented, and not till then. One-third of our farms are rented; half of them are mortgaged; and the price that labor pays to get at the soil is all that can be made above a hard living; hence, so many are driven into necessity, and by necessity, or the dread of it, into crime. No amount or kind of legislation will avail until we cease this foolish attempt to legislate wrong into right—night into day; and until we are not only willing but do follow natural right and justice.

WM. CAMM.

Murrayville, Ill., June 12, 1882.

Questionable Borrowing.—I see that my "Mating of Queens" is inserted in the *Iowa Homestead* and in the *Iowa Live Stock Journal*, without credit to your paper. I furnished only one copy, and that one to you.

Des Moines, Iowa. J. M. SHUCK.

[This questionable method of filling up a paper occurs frequently—in fact, too often to be always pleasant to the enterprising publisher who secures his corps of contributors at a considerable outlay of time and much trouble. We feel great pleasure in having correspondence, editorial and other matters copied from our columns and properly accredited; but when they are appropriated as though prepared for and appearing originally in such paper, we feel as would a merchant who had been robbed of part of his stock in trade.—Ed.]

Rearing Queens in Utah.—Since I last wrote to you I have been engaged in queen-rearing, as quite a few have expressed a desire to have a queen from my bees, they being Italians, the bees in this city mostly being hybrids, and a few of the black bees. I divided on the 16th of May, and in a few days after had 10 queen cells in 2 of the hives which I had divided. On the 22d I took 4 of those cells and gave them to a bee man in this city, he taking an active part in assisting me in the queen business. On the 30th of May my first queen was hatched, with 3 cells still remaining in the hive. I formed 4 nuclei by taking 7 frames from my remaining hives. One of the queen cells I left in the hive I divided was $2\frac{1}{2}$ inches long from the face of the comb. I thought that it would be a prize queen, but in examining the comb a few days after, I found the prize cell gone and no queen in the hive. I also took the queen that hatched the 30th, having taken it out on a frame of foundation where I found it first. My method of introducing the queen was in this manner: I took the frame of foundation which I had kept and put it into one of the nuclei wherein the

queen cell had not hatched out, but was torn down, and last week I found her in the same hive laying and apparently at home. The bees get plenty of water in this district, as we irrigate our gardens every week, and have a pure stream of water pass our door all the time. JOHN DUNN.

Tooele City, Utah, June 14, 1882.

Prospect Good for Basswood.—Bees are doing nothing with us in Canada at present. The white clover is only beginning to blossom. I had to feed some of my bees; they killed off most of their drones; some of the colonies drove them out till the ground was covered with them. Do you think they will swarm after killing the drones? The hives are full and running over with bees ready to gather the honey. I think in a few days we will have a flow of honey. There is a good prospect for raspberries, and white clover is beginning to blossom. There is promise of a basswood honey harvest, as the trees are full of blossom buds. WILLIAM COLEMAN.

Devizes, Ont., June 16, 1882.

[Yes; they will provide more drones when they become strong enough, and the weather and honey-flow are favorable for swarming.—Ed.]

Coffee A Sugar for Winter.—Apple blossom season closed on the 12th inst. in this locality—fully two weeks later than last year. Bees have been booming in consequence, and have occupied about one-half of the day time in securing the nectar. The rains and extremely cool days and nights have been detrimental to them, but they have done well. White clover promises to be abundant, and will be out in about a week when the bees will "boom" again. This is also about two weeks or more later than last season. My colonies number 30, mostly Italians. They came through last winter with little loss, wintered, as usual, on summer stands, in double-walled chaff hives; 20 colonies are ready to go into the boxes soon as the honey flow commences again, and the others will be ready for the basswood flow, which I have seldom known to fail in this locality. My bees were wintered in 1880 and 1881 without loss, out-of-doors in chaff hives. I practice stimulative feeding in the spring to get my bees ready for the first honey flow, and have usually been successful. I have never had a case of dysentery in my apiary. I fed pure coffee A sugar for fall and winter stores, but never any glucose or grape sugar, or poor honey. Pure coffee A sugar is the best for wintering bees, and if a case of dysentery can be shown where a colony has been wintered on this alone, I have yet to find it out. Of course, this must be melted so as to be of the proper consistency, and then fed early enough to give the bees time to cap it over. Do not trouble about pollen, that will take care of itself—the greatest trouble about it is that too frequently there is an excess of it, and that is detrimental to the health of the colony. If I remem-

ber correctly, I read an article in the BEE JOURNAL early this year from a bee-keeper of about 40 colonies, who professed to have fed about 500 lbs. of bran or rye flour in his own apiary; possibly I am mistaken, but think not. To say the least, I cannot see how it was done, and what the necessity was. Beginners are often troubled about getting bees started in the surplus boxes. I have had but little trouble in that way; first supply the boxes with starters of natural comb or foundation, and then raise a frame of brood or honey from the brood chamber to the storage apartment, and the bees will commence business at once, unless the hives be too warm; in that case, give good ventilation. The vacant space in the brood chamber must be supplied with a frame of foundation or comb. E. F. SMITH.
Smyrna, N. Y., June 15, 1882.

Spring Dwindling.—Bees wintered well in this part of the country. One man living near me only lost one colony out of 106 up to the time he took them from the cellar, but since the bees were put on the summer stands they have gone back a good deal, owing to the cold, windy weather we have had in the month of May. The loss of bees since putting them out this spring, up to the present time, will range from 10 to 25 per cent., and a good many of those remaining are not in a promising state.
S. HINMAN.

Dundona'd, Ont., June 14, 1882.

Queen Shipping Cages.—As the safe shipping of queens by mail does not seem to have yet reached perfection by every shipper, I will give a little of my own experience in that line—not as a shipper, but as a receiver of queens. During the last few years I have had sent me between 100 and 200 queens, by about a dozen different breeders, no two of whom have put up their queens in exactly the same manner. Some lots reached me all dead, some all alive, with attendant bees bright and clean as when first started on their journey, and some in all kinds of condition between the two extremes. The shipper who has had the most uniform success, uses the old-fashioned wood cages, sends about 8 or 9 attendant bees with each queen, and provisions with candy in the cages and a sponge or bit of cotton saturated with honey at the sides of each cage, with wire-cloth between the bees and the honey. This man has sent me some 50 queens in all, every one of them having reached me not only alive, but clean and bright, and what is still more uncommon, the same is true of all their attendant bees, with the exception of one bee only. It is a great advantage to know that a certain number of queens is sure to arrive in good condition within one or two days of a known time. My poorest success in receiving queens in good condition has been with those sent in Peet cages. I supposed this experience of mine was unusual, until I was told by an extensive shipper, while at the National

Convention last fall, that after having lost heavily by using this cage for shipping purposes, he had abandoned it, and gone back to the old-fashioned wooden cages. I do not know by experience how unpleasant it must be to a shipper when he receives notice of a loss of queens while in transit, but I do know how much it bothers a receiver to take dead queens out of the postoffice, and have to wait two to four weeks for others in their place.

O. O. POPPLETON.

Williamstown, Iowa.

Enigmatical.—I send you to-day, by mail, a queen cage with a piece of comb partly filled with sugar. This was stored in the past 10 days, and I am at a loss to account for it. You will observe that the honey has become solid as fast as deposited, and it is out of the question to extract it. I am at a loss to know what to do. I cannot extract, and the hives are about full; bees are idle for want of room. I have about 400 wired frames in this condition. Will you please examine and advise? I cannot tell what the honey is stored from; the hives have been extracted regularly this spring, so it is not old honey.

H. N. WILDER.

Forsyth, Ga., June 17, 1882.

[The piece of honey referred to above has been received, and it is a great curiosity. There are no cells capped on the piece sent us, but the honey in them, which is white as basswood honey, is crystallized quite solid in the cell, with a watery appearance. These pellets or crystals can be lifted out entire with the point of a knife, and do not exhibit that tendency to crumble or run generally found in granulated honey. The strangest feature about the honey is its taste, which is neither like honey nor sugar, but more nearly that of epsóm salts, sweetened—at least the sample received appears so. We do not know what it could have been gathered from, never having seen anything like it before; nor can we advise what to do with it, as we do not know what effect it will have on the bees. If it will agree with them, it might be saved over for spring feeding, but we would be afraid to attempt to winter on it, at least without having experimented with its sanitary effect. You might have some competent chemist in your city analyze it.—ED.]

Things Look Brighter Now.—This has been the worst season on bees I ever knew, but things look brighter now. We are having a good flow of honey now. It has also been the worst spring for queen-rearing I ever experienced.

D. A. PIKE.

Smithsburg, Md., June 15, 1882.

Difference in Location.—I have 10 colonies in the country on the river bottom, and 18 here in Clarinda. To-day I went out to see how they were getting along in the country, and found they had gathered but little honey, while those I have here are breeding nicely and in some hives are sealing up new honey. The distance between the two places does not exceed two miles, and I cannot account for it, unless it is a washing rain that swept off the river two days before, almost missing us here, just giving us a gentle shower. We have more white clover here than on the bottom; but out there is sumac and basswood—the former now almost ready for the bees. I think when we figure up at the close of the season, that the results from the country will compare favorably with those in town. I have succeeded beyond my most sanguine expectations in making comb foundation. After taking a lesson from Mr. Craig in Missouri, I melted the beeswax, and the first dip I made peeled off the plate without trouble. Feeling somewhat elated at my success, I kept on until I had 40 lbs. of nice sheets, and afterward succeeded as well with the machine as in dipping.

J. L. STRONG.

Clarinda, Iowa, June 14, 1882.

Large Yield Expected.—This spring has been so late, cold and wet here that it has been very discouraging to bee-keepers. My bees wintered excellent in my plastered hives, on the summer stands, better than those in single-walled hives in the cellar. They went into winter quarters with a good supply of honey, but it was so warm and pleasant in February the queens commenced laying early and rearing brood, which caused the consumption of a great amount of honey, and the cold rainy spring and unfavorable weather caused them to spring dwindle badly. Some colonies died. On the first day of June the weather changed from ridiculous to sublime; white clover put in an appearance, and bees are now "booming;" in fact, I never saw bees gather honey and rear brood so fast as during the last week. They are working in sections and swarming in every direction. Bee men that a month ago were blue as indigo, now feel like "the cow that jumped over the moon." We are having a large white clover bloom, which is our principal honey resource, and I look for a big honey flow from this out.

A. W. FISK.

Bushnell, Ill., June 19, 1882.

Osage Orange for Honey.—Bees in this county wintered extra fine. The first of April they were strong in numbers, but the cold and wet weather has had its affect. Fruit bloom done but little good. The 4th of May was a glorious honey day; the bees worked with the spirit of desperation till 4 o'clock p. m., and then the blizzard struck. The next day that was good (June 9), my 25 colonies all flew strong. I kept a close watch of all colonies, and when their honey was exhausted I fed moderately with

quite thin sugar syrup. Although it rains every other day, white clover is plenty and is yielding honey remarkably well—people come along and tell me my bees are swarming. The air is melodious with their joyful hum, the combs are being lengthened out very fast along the top-bars. Tomorrow I shall put on a good many cases of sections. All kinds of vegetables are at least three or four weeks late. We are pretty sure now of about 2½ months of fine white clover bloom. Heartsease, one of the best of honey plants with us, is very plenty in wet cornfields, and is there to stay. I feel as though my prospects were never better for a good, big honey crop. I think swarming will commence in about a week or ten days. I am more than pleased with the BEE JOURNAL. I admire the way you sting adulterators. I inclose a few Osage orange blossoms. The bees work on them very eagerly. PHILIP P. NELSON.
Manteno, Ill., June 21, 1882.

A Screen to Protect from Robbers.—I make a frame of 1x2 inch strips, 3x6 feet, and 6 feet high; line it all around with mosquito bar; put an oil-cloth on top to darken it, and put a door in one end, with wire-screen or mosquito bar covering, and hang it on hinges, as you would a screen door. When robber bees are around and I want to open a hive, I place this over the hive, go in and shut the door. When done, move the screen from over the hive, and all will be safe. J. T. BRUTON.
Joplin, Mo.

Working on White Clover.—Bees are doing finely now, and have worked on white clover since June 10. To-day the weather is cold and chilling, with rain. Had my first swarm June 16. I will have new extracted honey in a few days. G. J. PAMMEL.
La Crosse, Wis., June 19, 1882.

Early Swarming.—I had a swarm of bees, a very large one, the 30th day of May. It looked queer to see a swarm of bees flying in the air when the trees were not yet leaved out, though the dandelions were in blossom. My bees are in fine condition, storing honey from raspberry blossoms in sections, of which there is an abundance. G. H. ADAMS.
North Nassau, N. Y., June 19, 1882.

Satisfied with Prospects.—I have 18 colonies of bees, and all are doing well now. GEORGE KIME.
North Liberty, Ind., June 22, 1882.

Preparation of Honey for the Market, including the production and care of both comb and extracted honey. A new pamphlet of 32 pages. At the last meeting of the North American Bee-Keepers' Society, we were appointed on a committee to prepare instructions on the Exhibition of Bees and Honey at Fairs; this is also added to the above. Price, 10 cents.

THE AMERICAN BEE JOURNAL

ADVERTISING RATES.

20c. per agate line of space, each insertion.

A line of Agate type will contain about eight words; fourteen lines will occupy 1 inch of space. Transient Advertisements payable in advance. Special Notices, 50 cents per line.

DISCOUNTS will be given on advertisements published WEEKLY as follows, if the whole is paid in advance:

For 4 weeks.....	10 per cent. discount.
" 8 " (3 months).....	20 " "
" 13 " (6 months).....	30 " "
" 26 " (9 months).....	40 " "
" 39 " (1 year).....	50 " "
" 52 " (1 year).....	60 " "

Discount, for 1 year, in the MONTHLY alone, 25 per cent., 6 months, 10 per cent., 3 months, 5 per cent.

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Advertisements withdrawn before the expiration of the contract, will be charged the full rate for the time the advertisement is inserted.

THOMAS G. NEWMAN,

925 West Madison Street., Chicago, Ill.

Special Notices.

The BEE JOURNAL is mailed at the Chicago Postoffice every Tuesday, and any irregularity in its arrival is due to the postal employees, or some cause beyond our control.

We will send Cook's Manual in cloth, or an Apiary Register for 100 colonies, and Weekly BEE JOURNAL for one year, for \$3.00; or with King's Text-Book, in cloth, for \$2.75; or with Bees and Honey, in cloth, \$2.50.

Always forward us money either by postal order, registered letter, or by draft on Chicago or New York. Drafts on other cities, or local checks, are not taken by the banks in this city except at a discount of 25 cents, to pay expense of collecting them.

Premiums.—Those who get up clubs for the Weekly BEE JOURNAL for 1882, will be entitled to the following premiums. Their own subscription may count in the club:

For a Club of 2,—a copy of "Bees and Honey."	
" " 3,—an Emerson Binder for 1882.	
" " 4,—Apiary Register for 50 Colonies, or Cook's (Bee) Manual, paper.	
" " 5,—" " cloth.	
" " 6,—Weekly Bee Journal for 1 year, or Apiary Register for 200 Col's.	

Or they may deduct 10 per cent in cash for their labor in getting up the club.

Local Convention Directory.

1882. Time and Place of Meeting.
July 8—Madison, Wis., at Madison, Wis.
25—Western Iowa, at Winterset, Iowa.
Henry Wallace, Sec. Winterset, Iowa.
Aug. 10—Maine State, at Harmony, Maine.
Wm. Hoyt, Sec.
Sept. 5—N. W. Ill. and S. W. Wis., at Rockton, Ill.
Jonathan Stewart, Sec.
Oct. 3-6—North American, at Cincinnati, O.
Dr. Ehrick Paruly, Sec. New York City.
5—Kentucky Union, at Shelbyville, Ky.
G. W. Demaree, Sec. Christiansburg, Ky.
Tascarawas Valley, at Newcomertown, O.
J. A. Bucklew, Sec. Clarks, O.

In order to have this table complete, Secretaries are requested to forward full particulars of time and place of future meetings.—ED.

Honey and Beeswax Market.

OFFICE OF AMERICAN BEE JOURNAL.
Monday, 10 a. m., June 19, 1882.

The following are the latest quotations for honey and beeswax received up to this hour:

Quotations of Cash Buyers.

CHICAGO.

HONEY—I am paying 7c. for dark and 9c. for light extracted.
BEESWAX—Choice lots are worth 25c. here; bright yellow, 24c.; dark to good, 17@22c.
AL. H. NEWMAN, 923 W. Madison St.

CINCINNATI.

HONEY—The market for honey is quiet. Extracted brings 7@10c. on arrival. No comb honey on the market worth mentioning, prices nominal.
BEESWAX—Scarce, and brings 20@25c. on arrival.
C. F. MUTH.

Quotations of Commission Merchants.

CHICAGO.

HONEY—The demand for comb honey is light, prices being made to meet views of purchaser.
BEESWAX—Scarce, and in demand at 23@25c.
R. A. BURNETT, 165 South Water St.

BOSTON.

HONEY—Trade quiet. We quote at 20@22c., according to quality.
BEESWAX—Prime quality, 25c.
CROCKER & BLAKE, 57 Chatham Street.

NEW YORK.

HONEY—White clover, fancy, 1 lb. bxs., 15@16c.; white clover, good to choice, 1 and 2 lb. bxs., 13@14c.; buckwheat, 2 lb. bxs., per lb., 11@12c. Extracted and strained, white, 9@10c.; dark 7@8c.
BEESWAX—The market continues rather quiet, but the supply is light and prices firmly sustained. Western, pure, 24@24½c.; Southern pure, 25@25½c.
D. W. QUINBY, 105 Park Place.

SAN FRANCISCO.

HONEY—Several small lots of new are on the market, but there have been no sales reported beyond those mentioned last week, which were to fill urgent orders. Quotations are entirely nominal, with little prospect of any movement until prices are lower.

We quote white comb, 14@16c.; dark to good, 8@12c. Extracted, choice to extra white, 8@8½c.; dark and candied, 6½@7c. BEESWAX—23@25c.
STEARNS & SMITH, 423 Front Street.

ST. LOUIS.

HONEY—In fair demand. Extracted selling at 8@10c.; comb scarce—nominal at 18@22c.
BEESWAX—Prime in demand at 22@23c.
R. C. GREEK & Co., 117 N. Main Street.

CLEVELAND.

HONEY—As there is no honey in market, we have no quotations this week.
A. C. KENDEL, 115 Ontario Street.

Binders for 1882.—We have had a lot of Emerson binders made especially for the BEE JOURNAL for 1882. They are lettered in gold on the back, and make a nice and convenient way to preserve the JOURNAL as fast as received. They will be sent post paid by mail for 75 cents.

Special Notice.—This number of the BEE JOURNAL completes the first half of the volume for 1882. A few have only subscribed for six months, and their subscriptions expire with this number. To all such we desire to remark that by sending on their renewal at once, they will not only prevent the annoyance to themselves of missing the regular visits of their old friend—the Weekly BEE JOURNAL, but they will save us much trouble in taking their names off from our mailing lists, and then re-entering them within a short time. We hope all will renew at once or else send us a notice by return mail, if they desire its visits continued.

Our new location, No. 925 West Madison St., is only a few doors from the new branch postoffice. We have a telephone and any one in the city wishing to talk to us through it will please call for No. 7087—that being our telephone number.

Bee Pasturage a Necessity.—We have just issued a new pamphlet giving our views on this important subject, with suggestions what to plant, and when and how. It is illustrated with 26 engravings, and will be sent postpaid to any address for 10 cents.

Binders cannot be sent to Canada by mail—the International law will not permit anything but samples of merchandise weighing less than 8 oz.

A Sample Copy of the Weekly BEE JOURNAL will be sent free to any person. Any one intending to get up a club can have sample copies sent to the persons they desire to interview, by sending the names to this office.

The postal law makes the taking of a newspaper and the refusal to pay for the same, theft, and any person guilty of such action is liable to criminal proceedings the same as though he had stolen goods to the amount of the subscription.

Ribbon Badges, for bee-keepers, on which are printed a large bee in gold, we send for 10 cts. each, or \$8 per 100.

Ashland, Pa., June 3, 1880.—A case of spavin that came under my observation was entirely cured by one bottle of Kendall's Spavin Cure, and the horse sold afterwards for \$200.
25th Yours truly, C. H. BARNARD.

The Apiary Register.

All who intend to be systematic in their work in the apiary, should get a copy and commence to use it.

For 50 colonies (120 pages).....\$1 00
" 100 colonies (220 pages)..... 1 50
" 200 colonies (420 pages)..... 2 00

The larger ones can be used for a few colonies, give room for an increase of numbers, and still keep the record all together in one book, and are therefore the most desirable ones to procure at the start.

Honey as Food and Medicine.

A new edition, revised and enlarged, the new pages being devoted to new Recipes for Honey Medicines, all kinds of cooking in which honey is used, and healthful and pleasant beverages.

We have put the price of them low to encourage bee-keepers to scatter them far and wide. Single copy 6 cents, postpaid; per dozen, 50 cents; per hundred, \$4.00. On orders of 100 or more, we print, if desired, on the cover-page, "Presented by," etc., (giving the name and address of the bee-keeper who scatters them). This alone will pay him for all his trouble and expense—enabling him to dispose of his honey at home, at a good profit.

Those who may wish to change from other editions to the Weekly, can do so by paying the difference.

Advertisements intended for the BEE JOURNAL must reach this office by Saturday of the previous week.

Three years ago St. Julian, the great California trotter, was unknown; the same may be said of Kendall's Spavin Cure. Now both have a world-wide reputation. Why? Because they both have merit. One is a great trotter, the other is the most successful remedy ever discovered to be used on man or beast.

CLUBBING LIST.

We supply the Weekly American Bee Journal and any of the following periodicals, one year, at the prices quoted in the last column of figures. The first column gives the regular price of both. All postage is prepaid by the publishers.

	Publisher's Price.	Club.
The Weekly Bee Journal.....	\$2 00..	
and Gleanings in Bee-Culture (A. I. Root) 3 00..	2 75	
Bee-Keepers' Magazine (A. J. King) 3 00..	2 50	
Bee-Keepers' Instructor (W. Thomas) 2 50..	2 35	
The 4 above-named papers.....	4 50..	4 00
Bee-Keepers' Exchange (Houk & Peet) 3 00..	2 80	
Bee-Keepers' Guide (A. G. Hill).....	2 50..	2 35
Kansas Bee-Keeper.....	2 50..	2 40
The 7 above-named papers.....	6 30..	5 50
The Weekly Bee Journal one year and Prof. Cook's Manual (bound in cloth) 3 25..	3 00	
Bees and Honey, (T. G. Newman) " 2 75..	2 50	
Binder for Weekly, 1881.....	2 85..	2 75
Binder for Weekly for 1882.....	2 75..	2 50

Advertisements.

THE AMERICAN BEE JOURNAL is the oldest Bee Paper in America, and has a large circulation in every State, Territory and Province, among farmers, mechanics, professional and business men, and is, therefore, the best advertising medium.

BEE SWAX.

I wish to buy a quantity of good yellow Beeswax. I am paying \$4.00 per pound, delivered here, Cash on arrival. Shipments solicited.
To avoid mistakes, the name of the shipper should always be on each package.

ALFRED H. NEWMAN.

923 West Madison Street, CHICAGO, ILL.

GOLDEN ITALIAN QUEENS, FROM IMPORTED STOCK.

Warranted Queen, \$1.00, 6 for \$5.00; Tested Queen, \$1.50. Address by registered letter or post-office order, F. H. SCATTERGOOD, Newgarden, Col. Co., Ohio.

W. Z. HUTCHINSON,

Rogersville, Genesee County, Mich.,

Makes a specialty of rearing fine Italian Queens. All queens bred from imported queens, and from the purest and best home-bred queens, and the cells built in full colonies. No black bees in the vicinity. Single queen, \$1.00; six queens for \$5.00; twelve or more, 75c. each. Tested queens, \$2.00 each. Safe arrival by mail guaranteed. Send money by draft, registered letter, or by money order drawn on Flint, Mich.

BARNES' PATENT Foot Power Machinery



CIRCULAR AND

SCROLL SAWS.

Hand, Circular Rip Saws for general heavy and light ripping, Lathes, &c. These machines are especially adapted to Hive Making. It will pay every bee-keeper to send for our 48-page illustrated Catalogue.

W. F. & JOHN BARNES, No. 2017 Main street, Rockford, Winnebago Co., Ill.

Class in Bee-Keeping.

Application has been made to me to take students in Bee-keeping. I have, therefore, determined to begin a class on MONDAY, JULY 10, and extend through eight weeks. The instruction will include a study of the Anatomy and Physiology of the Bee, Queen-Rearing, Artificial Increase, Implements, Comb Honey, Extracted Honey, Bee Pasturage, Wintering, etc. I have a good library of Bee Literature, all Approved Modern Appliances, etc. My home apiary has eighty colonies of Italian Bees, among which students can practice.

O. CLUTE, Iowa City, Iowa.

FLAT-BOTTOM COMB FOUNDATION.



high side-walls, 4 to 16 square feet to the pound. Circular and samples free.

J. VAN DEUSEN & SONS, Sole Manufacturers, Sprout Brook, Mont. Co., N. Y.

Pure Italian Bees

at reasonable prices.

FULL COLONIES IN LANGSTROTH HIVES, QUEENS AND NUCLEI.

Satisfaction guaranteed in every sale.

22w8t JOHN F. DIPMAN, Fremont, Ohio.

TIN POINTS for GLASSING HONEY

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